REMARKS

An excess claim fee payment letter is submitted herewith for two (2) additional dependent claims.

Claims 1-4, 6-10, 12-15, and 17-25 are all the claims presently pending in the application. Claims 22 - 25 are newly added. Claims 1, 3-4, 6-8, and 10 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Applicant gratefully acknowledges the Examiner's indication that claims 3, 7-10, 12-15, 17, and 19-21 are allowed. However, Applicant respectfully submits that all of the claims are allowable.

Claims 1-2, 4, 6, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Oka et al. reference in view of the Hein reference.

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

A first exemplary embodiment of the claimed invention as defined by, for example, independent claim 1, is directed to an electric power steering device for transmitting rotation of a steering assisting electric motor to a steering mechanism through a small gear and a large gear. The device includes a first member on a rotary shaft of the electric motor, a second member at one end of the small gear, and an elastic member between the first and second

members for transmitting a torque between the two members. The elastic member has a first torsional elastic modulus when a torsion angle between the first and second members is less than a predetermined angle, and a second torsional elastic modulus when the torsion angle is one of equal to and larger than the predetermined angle. The first torsional elastic modulus is smaller than the second torsional elastic modulus. The elastic member includes a radially and axially extending plate-shaped portion. At least one of the elastic member and said first and second members includes a circumferentially extending projection at an outer periphery. If the elastic member includes the circumferentially extending projection, then a radially extending surface of the circumferentially extending projection contacts the first and second members when no torque or low torque is applied to one of the first and second members. If at least one of the first and second members includes the circumferentially extending projection, then the circumferentially extending projection contacts the elastic member when no torque or low torque is applied to one of the first and second members.

A second exemplary embodiment of the claimed invention as defined by, for example, independent claim 6, is directed to a joint for use in an electric power steering device. The joint includes a first member, a second member, and an elastic member between the first and second members for transmitting a torque between the two members. The elastic member has a first torsional elastic modulus when a torsion angle between the first and second members is less than a predetermined angle, and a second torsional elastic modulus when the torsion angle is one of equal to and larger than the predetermined angle. The first torsional elastic modulus is smaller than the second torsional elastic modulus. The elastic member includes a projection having a bifurcated structure defining a slit portion.

Conventional power steering devices do not operate a steering assist motor under low

torque loads. Therefore, under these low torque loads, the steering assist motor acts as a torsional drag element which deteriorates the feel of the steering.

The present invention overcomes this problem by providing at least one of the elastic member and said first and second members includes a circumferentially extending projection at an outer periphery, where if the elastic member includes the circumferentially extending projection, then the circumferentially extending projection contacts the first and second members when no torque or low torque is applied to one of the first and second members and if at least one of the first and second members includes the circumferentially extending projection, then a radially extending surface of the circumferentially extending projection contacts the elastic member when no torque or low torque is applied to one of the first and second members (as recited by independent claims 1 and 4) or by providing an elastic member that includes a projection having a bifurcated structure defining a slit portion (as recited by independent claim 6). This feature provides an elastic member with a two-stage torsional elastic modulus. In this manner, the steering feeling during low torque, such as during small steering angle inputs, is significantly improved (page 3, lines 9-14).

II. THE PRIOR ART REJECTION

The Examiner alleges that the Hein reference would have been combined with the Oka et al. reference to form the claimed invention. Applicant submits, however, that these references would not have been combined and, even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant submits that none of the applied references teaches the features of the claimed invention including: 1) at least one of the elastic member and said first and second

members includes a circumferentially extending projection at an outer periphery, where if the elastic member includes the circumferentially extending projection, then the circumferentially extending projection contacts the first and second members when no torque or low torque is applied to one of the first and second members and if at least one of the first and second members includes the circumferentially extending projection, then a radially extending surface of the circumferentially extending projection contacts the elastic member when no torque or low torque is applied to one of the first and second members (as recited by independent claims 1 and 4); and 2) an elastic member that includes a projection having a bifurcated structure defining a slit portion (as recited by independent claim 6). As explained above, these features are important for providing an elastic member with a two-stage torsional elastic modulus which significantly improve the steering feeling during low torque, such as during small steering angle inputs.

Clearly, the Oka et al. reference does not teach or suggest any of these features. Indeed, the Examiner does not allege that the Oka et al. reference discloses these features.

The Hein reference does not remedy the deficiencies of the Oka et al. reference.

Rather, the Hein reference discloses a flexible coupling 12 that has radially extending inner portions 25 and outer portions 26 extending radially from and beyond the inner portions 25. (Col. 2, lines 31-34).

Clearly, the flexible coupling 12, that is disclosed by the Hein reference does not teach or suggest an elastic member having a circumferentially extending projection at an outer periphery, as recited by independent claims 1 and 4.

Rather, and in stark contrast, only the radially extended inner portion 25 includes anything at all which might resemble a circumferentially extending projection as recited by,

for example, independent claim 1.

Further, only the radially extended outer portion 26 extends to an outer periphery, clearly the radially extended outer portion 26 does not have any circumferentially extending projection at all, let alone a circumferentially extending projection at an outer periphery, as recited by, for example, independent claim 1.

With respect to independent claim 6, the Examiner concedes that none of the applied references teaches or suggests an elastic member that includes a projection having a bifurcated structure defining a slit portion as recited by independent claim 6. However, the Examiner maintains the rejection of independent claim 6.

Clearly, the Examiner's continued indication of the rejection of claim 6, despite the Examiner's admission that the subject matter recited by claim 6 is not disclosed by any of the applied references is a clear error.

Applicant respectfully requests withdrawal of the rejection of claims 1-2, 4, 6, and 18.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 1-4, 6-10, 12-15, and 17-25, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 3/20/08

James E. Howard, Esq.
Registration No. 39,715

McGinn Intellectual Property Law Group, PLLC
8321 Old Courthouse Rd., Suite 200
Vienna, Virginia 22182
(703) 761-4100
Customer No. 21254